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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/692,933 | 10/27/2003 | Yosuke Tamura | 244624US2S | 2135 |
| 22850 | 7590 | 07/13/2007 | EXAMINER | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | | LAI, MICHAEL C |
| ART UNIT | | PAPER NUMBER | | |
| 2109 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 07/13/2007 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/692,933 | TAMURA, YOSUKE | |
| | Examiner | Art Unit | |
| | Michael C. Lai | 2143 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 27 October 2003.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-16 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1,12,13,15 and 16 is/are rejected.
 7) Claim(s) 2-11, 14 is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 27 October 2003 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in parent Application No. 10/692933, filed on 10/27/2003. The effective filing date is 10/27/2003. The foreign priority date is 08/26/2003.

Claim Objections

2. Claim 7 objected to because of the following informalities: "16" on page 40, line 17 should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 12-13, and 15-16 are rejected under 35 U.S.C. 103(a) as unpatentable over Hull (US 2003/0100309 A1), hereinafter referred to as Hull, in view of Sekine et al. (US 6,101,188), hereinafter referred to as Sekine.

5. Regarding claim 1, Hull discloses a wireless LAN apparatus comprising:
a reception section which receives frames including fragments respectively, each of the fragments having a predetermined size into which first data is divided (FIG.3 T/R 301 and paragraph 0027. IEEE 802.11 standards show the MAC frame format and the subfield "More Fragments", frames and fragments are well-known in the art);

a reading section which reads the total number of fragments based on the first data, the total number of fragments being containing the first frame based on the first data, the first frame being first received by the reception section (The processor 327 is capable of reading data from the MAC frame, paragraph 0028);

a determining section which determines whether the amount of the first data based on the total number of fragments in the first data is larger than the amount of free areas in the queue or is equal to or smaller than the amount of free areas in the queue (the parameter determination routine 319 is capable of determining whether the amount of the first data based on the total number of fragments in the first data is larger than the amount of free areas in the queue or is equal to or smaller than the amount of free areas in the queue, paragraph 0029); and

a control section having a function of inserting fragments based on the first data into the queue if the determining section determines that the amount of the first data is equal to or smaller than the amount of free areas in the queue (the controller 303 including a processor 327 is capable of inserting fragments based on the first data into the queue if the determining section determines that the amount of the first data is equal to or smaller than the amount of free areas in the queue, paragraph 0028).

Hull doesn't disclose a queue that stores the received frames for each fragment and a free-area detecting section which detects free areas in the queue. However, Sekine discloses reception buffer queue 8 which delivers a reception buffer address from LAN controlling means 1 to bridge processing means 3 (FIG. 3 and column 5, lines

22-24). Sekine further discloses a free buffer queue 7 that stores buffer addresses in a non-used state (column 5, lines 21-22) and step C41 to hunt a free buffer from free buffer queue 7 (column 9, lines 54-55). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Sekine into Hull's system to have a queue that stores the received frames for each fragment and a free-area detecting section which detects free areas in the queue. The motivation would be to control and manage free areas more efficiently.

6. Regarding claims 12, 13 and 15, Hull discloses a wireless LAN apparatus comprising:

a reception section which receives frames including fragments respectively, each of the fragments having a predetermined size into which first data is divided (FIG.3 T/R 301 and paragraph 0027. IEEE 802.11 standards show the MAC frame format and the subfield "More Fragments", frames and fragments are well-known in the art);

a reading section which reads the total number of fragments based on the first data, the total number of fragments being containing the first frame based on the first data, the first frame being first received by the reception section (The processor 327 is capable of reading data from the MAC frame, paragraph 0028);

a determining section which determines whether the percentage of the total number of fragments in the first data taken up by the number of already received fragments based on the first data to is equal to or larger than a predetermined value or is smaller than the predetermined value (the parameter determination routine 319 is capable of determining whether the percentage of the total number of fragments in the

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first data taken up by the number of already received fragments based on the first data to is equal to or larger than a predetermined value or is smaller than the predetermined value, paragraph 0029);

a control section which sets a max receive lifetime indicative of an allowable range of time required to receive fragments based on one data by increasing the max receive lifetime by a predetermined extension time if the determining section determines that the percentage is larger than the predetermined value (the controller 303 including a processor 327 is capable of setting a max receive lifetime indicative of an allowable range of time required to receive fragments based on one data by increasing the max receive lifetime by a predetermined extension time if the determining section determines that the percentage is larger than the predetermined value, paragraph 0028);

Hull doesn't disclose an aging processing section which executes a process of discarding data for which all fragments have not been received when the max receive lifetime has elapsed as recited in claims 12 and 13. However, Sekine discloses an aging processing program that performs a function of deleting, from among entries learned in address learning tables 42, any entry with which a certain time has elapsed (column 8, lines 8-10). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teaching of Sekine into Hull's system to have an aging processing section which executes a process of discarding data for which all fragments have not been received when the max receive lifetime has elapsed. The motivation would be to remove dangling data therefore freeing up much needed memory space.

7. Hull discloses all the limitations of claim 15. For example: a total-number detecting section which detects the total number of fragments in second data; an inserting section which inserts the total number of fragments in the second data into a first frame containing one of a plurality of fragments of the second data which one is to be transmitted first; and a transmission section which transmits the first frame based on the second data (The processor 327 is capable of detecting the total number of fragments in second data, inserting the total number of fragments in the second data into a first frame containing one of a plurality of fragments of the second data which one is to be transmitted first, and transmitting the first frame based on the second data, paragraph 0028).

8. Regarding claim 16, Hull and Sekine do not disclose the control section further has a function of discarding the fragments based on the first data into the queue if the determining section determines that the amount of the first data is larger than the amount of free areas in the queue. Official Notice is taken for discarding the fragments if the first data is larger than the amount of free areas in the queue as inserting lager data into the free areas will cause memory mess and unpredictable results. Therefore it would have been obvious to one of ordinary skill in the art to incorporate the idea of discarding the fragments if the first data is larger than the amount of free areas in the queue into the system of Hull and Sekine at the time of invention such that no memory will be messed up and avoid unpredictable results.

Allowable Subject Matter

9. Claims 2-11 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael C. Lai whose telephone number is (571) 270-3236. The examiner can normally be reached on M-F 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marvin Lateef can be reached on (571) 272-5026. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Michael C. Lai
28JUNE2007


MARVIN M. LATEEF
SUPERVISORY PATENT EXAMINER